UPPER TRISHULI-1 HEP (216MW)			
Client	Doosan Heavy Industries & Construction		
DHI's Subcontractor	Power Construction Corporation of China		
REPLY COMMENT			
Subcontractor	Power Construction Corporation of China		
Incoming Document			
Title of the Document	**Outline Drawing of Diversion Tunnel Lining**		
Document/Drawing No.	UT1-C-010-CVL-DG-42005 (3 sheets)	Revision	0B
Review Document No.	**UT1-HEP-DHI-PC-D-0019**	Reviewed Note No.	**RN-0108**
Received Date	**30.03.2022**	Review status	**RR**
Outgoing Document			
Previous Reply No.	RC-00XX	Previous Reply Date.	**N/A**
Reply No.	RC-00XX	Reply date	**14.04.2022**

General Comments

1. The document has been submitted to the Employer/ OE not respecting time for review between

document submission and commencement of the works.

2. The comments of review note RN-0082, submitted with OE-TJ-UT1-OUT Site-DHI 059 on 09th of

March 2022 and other applicable review notes are valid for this review note as well.

Comments

1. Maximum block length/ contraction joints shall be considered and defined.

Reply: In the note 5, please refer to the demonstrating "The construction joints shall be determined by constructor according to construction technology, the rebar shall be continued at construction joint". And in the Method Statement, there are the maximum arrangement of construction joints.

2. Plug.

Reply: Plug section is demonstrated in longitudinal profile and by considering lower head bearing by the plug, no additional enlargement is designed.

3. High flow velocities with abrasive material shall be considered.

Reply: By considering good rock quality, and minor affects of bed load, the roof of tunnel is lined with shotcrete with thickness of 100mm~160mm corresponding to class II and class III, strength of 25MPa.

4. PVC-tube for weep holes in reinforced concrete lining.

Reply: According to the EPC contract ANNEX 13, PART C,1.Construction Specification,18.3.24, forms for weep holes through concrete is PVC tube. The detail of weep hole please refer to “Detailed Design Drawing of Excavation and Support for Underground Cavern (DWG. NO.UT1-C-000-CVL-DG-40001 REV.0C). And the drawings have been revised.

5. Lean concrete; weep holes in tunnel bottom slab; block joints/ details; transition concrete or shotcrete lining.

Reply: The lining concrete is reinforced concrete C24, and the drawings have been revised.

There are no weep holes in the tunnel bottom slab.

The arrangement of joints and details are shown in the Method Statement.

The transition between shotcrete and concrete lining are added in the drawings.

6. Pre-measures for plugging to be considered.

Reply: Before plugging, the surface of lining concrete need just to be roughed. And according to engineering practice, such lower head bearing for the plug, the 20 m long plugging is enough.

7. Typical cross section D5 (inlet section)/outlet section.

Reply: the typical cross section D5 (for inlet section)-chainage D0+00.000~D0+006.00, has been deleted. The D0-03.50~D0+06.00 is belong to the inlet structure, please refer to the drawing “Outline of Diversion Tunnel Intake Tower (UT1-C-010-CVL-DG-42008)”. The outlet section from chainage D0+385.553~D0+413.042 is applied typical cross section D3 and the drawing has been revised.

8. Horizontal water-stops according to UT1-C-010-CVL-MS-80093, subchapter 9.3.2(2) have to be indicated where applicable.

Reply: The method statement will be revised.

9. Class of finish to be indicated according to contract annex 13-part c,1,15,1,9 (2).

Reply: The drawing has been revised.